

The Storm Water Pollution Prevention Bulletin is prepared by the Storm Water Compliance Review Task Force to aid all projects and operations in maintaining compliance with the National Pollutant Discharge Elimination System (NPDES) permit requirements.

Soil stabilizing and mulching prevent or reduce discharges of sediment into drainage systems or watercourses from construction sites, by protecting the soil surface from the impact of raindrops. Using a Bonded Fiber Matrix (BFM) product is one way to reduce or eliminate soil erosion.



BFMs are hydraulically applied erosion control systems that consist of various types of fibers joined by adhesives. They are used for temporary surface covers until vegetation can be established or as a short-term ground cover. **BFMs** can also be used with existing or recently planted landscaping, to protect the area from erosion until the landscaping is established.

Characteristics of Bonded Fiber Matrixes

BFMs have many desirable characteristics that are described as follows:

- Mechanically locks the soil surface and the bonded fibers together.
- Application methods allow the material to be placed in difficult to access areas.
- Effective on steep slopes (>3:1).
- Porosity allows for infiltration of rainfall to permit germination of seed mixes.
- Application with seed and fertilizer provides a one-step erosion protection and seeding system.

Costs and Effectiveness

Depending on the type of product to be used and accessibility to the site, costs per acre of application vary from \$4,000 to \$5,000. Another factor that will affect the application costs is the steepness of the slope; usually steeper slopes have greater application costs.

Most of the **BFM** products will last from three months to one year, depending on the type of materials to be used. For instance, **BFMs** with wood fibers will last longer than those using recycled paper fibers.

New advancements in **BFM** technology allow for application of the materials onto damp soils and even during light rainfall according to manufacturers' specifications, though the effectiveness of the **BFM** may be reduced when applied during light rainfall.



This slope is being protected from erosion during plant establishment using **BFMs**.

Other Considerations When Using **BFMs**

The desired durability of the application will determine the type of **BFM** to be used. If the **BFM** is to be used for temporary erosion control and slope stabilization, a **BFM** should be chosen that will endure through the rainy season. When a **BFM** is to be used in conjunction with a seed mix or with landscaping, the **BFM** should protect the seed mix and the slope until the seeds germinate and the groundcover/landscaping is established.

Additional information is available in the Caltrans Storm Water Quality Handbooks. Questions or comments may be directed to:

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Using
**BONDED
FIBER
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For Mulching
and Soil
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